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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/654,891	09/05/2003	Masato Kawasaki	242417US3	6643

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EXAMINER

SOOHOO, TONY GLEN

ART UNIT	PAPER NUMBER
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1723

DATE MAILED: 10/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/654,891	Applicant(s) KAWASAKI, MASATO	
	Examiner Tony G. Soohoo	Art Unit 1723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 August 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 8-10 is/are pending in the application.
 4a) Of the above claim(s) 6 and 7 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-5 and 8-10 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>5-24-05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file. A translation of said papers has not been made of record .

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-5 and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wong et al 6267142 in view of Wong 6247903 and Cadeo et al 4964732 and Troope 3948490.

The Wong et al (Wong et al '142) reference discloses as best shown in figure 2A through figure 4, drawports 148a' 148b', 144, 139, a discharge port 154a,b, pressure regulator 170, 150, flow meters 151, 172a,b located down stream of the pressure regulation valves, isolation valves 304, 308, 310 on the feed lines, and feed lines 148a,b' usable for feeding deionized water, DIW, to a mixer 314, 312 to combine the chemical source 138 with the DIW whereby the data from the flow meters are used to control the flow, column 4, lines 54-62, column 5, lines 19-24.

Also, note that line 144 which can be used for means for flushing and cleaning, see column 4, lines 33-36.

The Wong et al '142 discloses all of the recited subject matter as defined within the scope of the claims with the exception of a feed pump arranged on each line, a combination of dampers with the pressurization regulator valves 170, 150, and PLC controlling the each valve on its respective line using measurements from the flow meters 151, 172a,b.

The reference to Wong 6247903 (Wong '903) teaches that one may better regulate the flow of flow and pressure of a fluid by utilizing the combination of a pressure regulator 124 and a pulse dampener 122 in the line so as to reduce fluctuations and having a recirculation line 121.

Accordingly, with regards to the issue the use of a combination of dampers and pressure regulator valves, it is deemed that it would have been obvious to one of ordinary skill in the art to modify the single use of a regulator valve of the Wong et al '124 device with the use of a combination of a regulator valve and a dampener and a recirculation line so as to better regulate flow and pressure fluctuations in the fluid flow so as to produce a more precise dispensing of material for exact mixing proportioning.

The reference to Cadeo et al 4964732 (Cadeo) teaches that in a each fluid mixing supply line, one may provide the combination of a flow meter 10, which is used to control a flow pump 6 by the use of a logic controller 9 so as to provide precise control of flow amounts for mixing and the provision of a recirculation line 12 so as to provide additional processing of the fluids. In view of the teaching of the Cadeo, it is deemed that it would have been also obvious to one of ordinary skill in the art to additionally provide for the Wong et al '142 device as modified by the Wong '903, as

discussed above, with the further provision of a pump responsive to a controller such as a PLC controller connected to the flow meter(s) such that it controls the rate of pumping located each feed line so as to provide a more precise proportional flow to the mixture and to provide a recirculation line so as to provide additional processing of the fluid.

With regard to the location of the valve(s) to obturate flow, absent any expected results it is deemed that it would have been obvious to one of ordinary skill in the art to change in the location of the valve so as long as the fluid is controlled in the fluid line such that flow may be stopped at any point desired, it has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ 70.

Troope 3948490 discloses that a supply line 90 or 96 may be fed to an mixing tank having level sensors 102, 112, 104, 114 and an air vent 68 which provides an function of isolation from the supply line 20 and further provides a mixing of the supply fluid and venting of unwanted gasses or pressure. In view of the teaching of the Troope reference it is deemed that it would have been obvious to one of ordinary skill in the art to further provide the feed to an intermediate an mixing tank having level sensors and an air vent which provides an function of isolation a ready supply of source fluid to a supply line the Wong '142 reference and further provides a mixing of the supply fluid and venting of unwanted gasses or pressure.

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11

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F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1- 5, and 8-9 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-8 of U.S. Patent No. 6,767,124 to Shikami et al (assignee to m FSI Ltd.) in view of Wong et al 6267142 and Cucci et al 5672832 and Troope 3948490.

The Shikami et al 6767124 (Shikami '124, common assignee, common inventor) patented claims discloses a device including in claim 1, drawports, discharge port, feed pumps, dampers and pressurization valves and a PLC controller responsive to pressure sensors, and a clean/flush line, (claim 4). The Shikami '124 reference discloses all of the recited subject matter as defined within the scope of the application claims with the exception of the provision of a flow meter in connection with the PLC controller in the downstream side of the dampeners and regulator, and having an isolator with level sensors and air vent.

The reference to Wong 6267142 (Wong '142) teaches that a flow meter 151 may be placed down stream of the pressure regulator 150 as a means to monitor how steady is the flow that is provided to a mixing point for a proportionate mixture, column 4, lines 54-57.

Additionally, the reference to Cucci et al 5672832 (Cicci '832) discloses that a flow meter may be constructed from pressure sensors.

Troope 3948490 discloses that a supply line 90 or 96 may be fed to an mixing tank having level sensors 102, 112, 104, 114 and an air vent 68 which provides an function of isolation from the supply line 20 and further provides a mixing of the supply fluid and venting of unwanted gasses or pressure.

Accordingly, it is deemed that it would have been obvious to one of ordinary skill in the art to modify the arrangement of the pressure (flow) sensors 8 of the Shikami '124 to a flow meter measuring device utilizing pressure sensor and to further locate the flow/pressure sensors to a location downstream of the pressure regulators as discussed by the Wong '124 reference so that the measurements of flow from the flow meter is more stabilized thereby providing a more precise measurement and control of the feed pump and further provide the feed to an intermediate an mixing tank having level sensors 102, 112, 104, 114 and an air vent 68 which provides an function of isolation a ready supply of source fluid to a supply line the Shikami (et al) reference and further provides a mixing of the supply fluid and venting of unwanted gasses or pressure.

6. Claim 10 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-8 of U.S. Patent No. 6,767,124 to Shikami et al (assignee to m FSI Ltd.) in view of Wong et al 6267142 and Cucci et al 5672832 and Troope 3948490 and in further view of Wong 6247903.

The Shikami '124 patented claims discloses all of the recited subject matter as defined within the scope of the application claims as modified above, with the exception of have a recirculation line. The reference to Wong 6247903 (Wong '903) teaches that one man better regulate the flow of flow and pressure of a fluid by utilizing the combination of a pressure regulator 124 and a pulse dampener 122 in the line so as to reduce fluctuations and having a recirculation line 121.

Accordingly, with regards to the issue the use of a combination of dampers and pressure regulator valves, it is deemed that it would have been obvious to one of ordinary skill in the art to provide for the device with a combination of a recirculation line so as to better regulate flow and pressure fluctuations in the fluid flow so as to produce a more precise dispensing of material for exact mixing proportioning.

Response to Arguments

7. Applicant's arguments with respect to claims 1-5, 8-10 have been considered but are moot in view of the new ground(s) of rejection.


Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following show tanks which level sensors which have an air vent which the tanks provide a feed to a supply line: Jewell 2441820, Owczarz 5409310, Henderson et al 6722779.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony G. Soohoo whose telephone number is (571) 272 1147. The examiner can normally be reached on 7-5PM, Tue-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker can be reached on 571-272-1151. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tony G Soohoo
Primary Examiner
Art Unit 1723

TONY G. SOOHOO
PRIMARY EXAMINER